Strongest Beam

Your engineering team at Vin-Tel, a company that designs bridges, has been asked to design a bridge beam for use in a future bridge project. Vin-Tel is looking for the design that maximized strength while minimizes cost. In order to foster creativity in the design shape only, the CEO has placed a restriction on the sample materials you can use to develop your model. Your team will be competing against other Vin-Tel engineering teams and the winning team will get a bonus.

The design specifications for your beam are as follows:

1. Construct beam using only a single 3x5 index card as your raw material
2. Use a glue stick for adhering any parts of your beam together
3. Length of your beam must be 3 inches
4. Cost is determined by measuring the mass (where less mass = lower cost in raw materials)

You will be required to submit a sample beam for testing. When presenting your beam, be prepared to show:

1. Your beam design (a cross-sectional cut)
2. Rationale for your design
3. Demonstration of the strength of your beam

MATERIALS

|  |  |
| --- | --- |
| 3 x 5 ruled index cards | ruler |
| glue stick | scissors or hobby shop knife |

REferences

Some references you might use in this project are:

1. <http://bridgecontest.usma.edu/manual.htm>
2. <http://www.thefutureschannel.com/dockets/algebra/structural_engineering/>.